

Ser. No. 10/732,762  
Group Art Unit 3745AmendmentsIn the Claims

Please amend the claims as follows:

1.—11. (cancelled)

12. (presently amended) A valve block for use in connection with a hydraulic pump and a hydraulic motor, comprising:

a first port formed in the valve block and having a first opening formed in a first side of the valve block and a second opening formed in a second side of the valve block opposite to the first side;

a second port formed in the valve block and having a third opening formed in the first side of the valve block and a fourth opening formed in the second side of the valve block;

a third port formed in the valve block and having a fifth opening formed in a third side of the valve block, where the third side is perpendicular to the first and second sides, and [l,]] wherein the third port comprises a bore extending from the fifth opening, and the third port is perpendicular to and intersects both the first and second ports and extends entirely through at least one of the first and second ports;

a first valve mounted in the first opening of the valve block and connecting the first port to the third port;

a second valve mounted in the third opening of the valve block and connecting the second port to the third port;

Ser. No. 10/732,762  
Group Art Unit 3745

a first hydraulic line connected between the hydraulic pump and the hydraulic motor and comprising a first connection member between the first hydraulic line and the second opening of the first port;

a second hydraulic line connected between the hydraulic pump and the hydraulic motor and comprising a second connection member between the second hydraulic line and the fourth opening of the second port; and

a third ~~return~~ hydraulic line extending from the fifth opening of the valve block.

13. (original) A valve block as set forth in Claim 12, wherein the first and second ports are parallel.

14. (cancelled)

15. (original) The hydraulic drive system of Claim 12, wherein the third hydraulic line connects the valve block to an inlet to the hydraulic pump.

16. (original) The hydraulic drive system of Claim 12, wherein the third hydraulic line connects the valve block to a separate fluid sump.

17. (presently amended) A hydraulic drive apparatus for use in a vehicle, comprising:

a first hydraulic pump housing mounted on the vehicle and having a first hydraulic pump mounted therein;

a first hydraulic motor housing mounted on the vehicle and having a first hydraulic motor mounted therein, wherein the first hydraulic motor is connected to the first hydraulic pump by means of first and second hydraulic lines located external to both the first hydraulic pump housing and the first hydraulic motor housing;

a first valve block mounted on the vehicle at a distance from both the first hydraulic pump housing and the first hydraulic motor housing, the first valve block comprising a first port

Ser. No. 10/732,762  
Group Art Unit 3745

connected to the first hydraulic line by means of a first connection member, a second port connected to the second hydraulic line by means of a second connection member and a third port having a third hydraulic line extending therefrom, wherein the third port intersects both the first and second ports and extends entirely through at least one of the first and second ports;  
a first valve mounted in the valve block and connecting the first port to the third port; and  
a second valve mounted in the valve block and connecting the second port to the third port.

18. A hydraulic drive apparatus as set forth in Claim 17, wherein the third hydraulic line is connected to an inlet of the first hydraulic pump.

19. A hydraulic drive apparatus as set forth in Claim 17, wherein the third hydraulic line is connected to a separate fluid sump.

20. (presently amended) A hydraulic drive apparatus as set forth in Claim 17, further comprising:

a second hydraulic pump housing mounted on the vehicle and having a second hydraulic pump mounted therein;

a second hydraulic motor housing mounted on the vehicle and having a second hydraulic motor mounted therein, wherein the second hydraulic motor is connected to the second hydraulic pump by means of third and fourth hydraulic lines located external to both the second hydraulic pump housing and the second hydraulic motor housing;

a second valve block mounted on the vehicle at a distance from both the second hydraulic pump and the second hydraulic motor, the second valve block comprising a fourth port connected to the third hydraulic line by means of a third connection member, a fifth port connected to the fourth hydraulic line by means of a fourth connection member and a sixth port

Ser. No. 10/732,762  
Group Art Unit 3745

having a sixth hydraulic line extending therefrom, wherein the third port intersects both the first and second ports and extends entirely through at least one of the first and second ports;

a third valve mounted in the second valve block and connecting the fourth port to the sixth port; and

a fourth valve mounted in the second valve block and connecting the fourth fifth port to the sixth port.

21. A hydraulic drive apparatus as set forth in Claim 20, wherein the sixth hydraulic line is connected to an inlet of the second hydraulic pump.

22. A hydraulic drive apparatus as set forth in Claim 20, wherein the sixth hydraulic line is connected to a separate fluid sump.

23. (presently amended) A hydraulic drive apparatus comprising:

a hydraulic pump located in a pump housing and a hydraulic motor mounted in a motor housing separate from the pump housing;

a valve block comprising:

a first port passage extending through the valve block and having a first opening formed in a first side of the valve block and a second opening formed in a second side of the valve block opposite to the first side; and

a second port passage extending through the valve block and having a third opening in the first side and a fourth opening in the second side;

a first valve port formed in the valve block and having a fifth opening formed in a third side of the valve block that is perpendicular to the first and second sides; and

Ser. No. 10/732,762  
Group Art Unit 3745

a second valve port formed in the valve block and having a sixth opening formed in a fourth side of the valve block, wherein the first and second valve ports are each hydraulically connected to both the first and second port passages; and

a first valve mounted in the fifth opening of the valve block for controlling the connection between the first and second port passages and a second valve mounted in the sixth opening of the valve block for controlling the connection between the first and second port passages;

wherein the central axis of the first port passage lies in a first plane that is perpendicular to both the first and third sides of the valve block and the central axis of the second port passage lies in a second plane that is perpendicular to both the first and third sides of the valve block and different from the first plane;

a first set of hydraulic lines connected between the hydraulic pump and the first and third openings in the valve block; and

a second set of hydraulic lines connected between the hydraulic motor and the second and fourth openings in the valve block.

24. (presently amended) The hydraulic drive apparatus of Claim 23, wherein the first valve port lies in the first plane and the second valve port lies in the second plane and second port passages are not in the same plane.

25. (original) The hydraulic drive apparatus of Claim 23, wherein the first valve is responsive to the pressure rise rate in the hydraulic line connected between the hydraulic pump and the first opening in the valve block and the second valve is responsive to the pressure rise rate in the hydraulic line connected between the hydraulic pump and the third opening in the valve block.

Ser. No. 10/732,762  
Group Art Unit 3745

26. (presently amended) A valve block for use in connection with transferring hydraulic fluid between a hydraulic pump and a hydraulic motor, the valve block comprising:

a first side and a second side formed opposite thereto, and a third side and a fourth side formed opposite to the third side, where the third and fourth sides are perpendicular to the first and second sides;

a first set of openings formed in the first one side of the valve block for hydraulically connecting the valve block to the hydraulic pump;

a second set of openings formed in the [[a]] second side of the valve block for hydraulically connecting the valve block to the hydraulic motor;

a first port passage formed in the valve block and connecting one of the first set of openings to one of the second set of openings;

a second port passage formed in the valve block and connecting the other of the first set of openings to the other of the second set of openings;

a first valve port formed in the third side of the valve block and a second valve port formed in the fourth side of the valve block, ~~first and valve ports formed in the valve block,~~ wherein the first and second valve ports are each hydraulically connected to both the first and second port passages, and wherein the first valve port does not extend to the fourth side of the valve block and the second valve port does not extend to the third side of the housing;

a first valve mounted in the first valve port, wherein the first valve is closed during normal operation and opens when the pressure in the first port passage reaches a selected level to permit hydraulic fluid to bypass from the first port passage to the second port passage; and

a second valve mounted in the second valve port, wherein the second valve is closed during normal operation and opens when the pressure in the second port passage reaches a

Ser. No. 10/732,762  
Group Art Unit 3745

selected level to permit hydraulic fluid to bypass from the second port passage to the first port passage.

27. (original) A valve block as set forth in Claim 26, wherein the first and second port passages are parallel to one another.

28. (original) A valve block as set forth in Claim 27, wherein the first and second valve ports are parallel to one another and perpendicular to the first and second port passages.

29. (presently amended) A vehicle comprising:

a hydraulic pump and a hydraulic motor mounted on the vehicle; and  
a valve block mounted on the vehicle separate from the hydraulic pump and hydraulic motor, the valve block comprising:

a first side and a second side formed opposite thereto, and a third side and a fourth side formed opposite to the third side, where the third and fourth sides are perpendicular to the first and second sides;

a first set of openings formed in the first side ~~one~~ side of the valve block for hydraulically connecting the valve block to the hydraulic pump and a second set of openings formed in the [[a]] second side of the valve block for hydraulically connecting the valve block to the hydraulic motor;

a first port passage formed in the third side of the valve block and connecting one of the first set of openings to one of the second set of openings;

a second port passage formed the fourth side of in the valve block and connecting the other of the first set of openings to the other of the second set of openings; wherein the central axis of the first port passage lies in a first plane that is perpendicular to both the first and third sides of the valve block and the central axis of the second port passage

Ser. No. 10/732,762  
Group Art Unit 3745

lies in a second plane that is perpendicular to both the first and third sides of the valve block and different from the first plane;

first and second valve ports formed in the valve block, wherein the first and second valve ports are each hydraulically connected to both the first and second port passages; and

first and second valves each mounted in one of the valve ports, wherein both valves are closed during normal operation of the hydraulic pump and motor, and wherein the first valve opens when the pressure in the first port passage reaches a selected level to permit hydraulic fluid to bypass from the first port passage to the second port passage and the second valve opens when the pressure in the second port passage reaches a selected level to permit hydraulic fluid to bypass from the second port passage to the first port passage.

30. (original) The vehicle of Claim 29, wherein the first and second valve ports are parallel to one another and perpendicular to the first and second port passages.